Dr. Jamal M. Alabid

Title: Assistant Professor in Architectural Technology

Affiliation: School of Built Environment, Architecture & Creative Industries – University of Bradford UK

E-mail: j.alabid@bradford.ac.uk

Speaker Biography:

Dr Alabid is an Assistant Professor in Architectural Technology and Chartered Architectural Technologist MCIAT, Faculty of Engineering & Digital Technologies, School of Built Environment, Architecture & Creative Industries with several years of teaching and research experience in the UK higher education. He is a Fellow in the UK Higher Education FHEA, Member of AECB and Certified Passivhaus Designer & Consultant, PAS2035: Retrofit Coordinator and PHPP Expert. Dr Alabid background is architecture and technology with BSc, MA, PGDip in architecture, PhD in Architectural Technology and PGCE in HE. He holds a Level 5 Diploma in Retrofit Coordination, Level 5 Diploma in Business Management and Leadership. He has published several peer reviewed articles, two book chapters and several conference papers included in the output profile. His main research focus is low energy buildings and indoor climate. Dr Alabid area of teaching is thermal comfort, environmental design, sustainable architecture, building performance, BIM and intelligent buildings, Passivhaus design and EnerPHit/AECB standard. Indoor climate, ventilation and daylight design has been always incorporated into his teaching and research mainstreams.

Presentation Title: **Sustainable Intelligent Building & Energy Systems**

Abstract:

The energy consumed in running the building services, particularly heating, cooling, and lighting, is often considered to be the greatest area of environmental impact from buildings. Within developed countries in Western Europe, services consume between 30 and 60 per cent of the primary energy used in buildings. In Britain this equates to approximately 50 percent of energy use and about half the UK total emissions (Harris, 2012). Since the government has committed Britain to reducing CO2 by 80% by 2050, for environmental and financial reasons, dramatic reductions in energy consumption of buildings are urgently required. Building energy use as a fraction of total energy consumption is of the same order in all developed European countries, while in less developed tropical countries it may fall to below 10%. In hotter climates air conditioning consumes a large fraction of the energy – in Kuwait, i.e., it is usual for air conditioning to consume 90% of the energy used in homes. The incentives for running buildings in an energy-efficient way are well-known – to save money, to reduce the consumption of natural resources, and to reduce carbon dioxide emissions. The term Building Automation System (BAS) might not fully define Smart and Intelligent Building (SIB). Although BAS denotes a system that controls and monitors most of the energy-consuming activities of a building, such as heating, lighting, and cooling. An Intelligent Smart Building will include those features but may also control other functions such as safety, access, lifts and security systems, and fire security systems with full integration system among users, environment, and a building. This research deals largely with the control of environmental conditions in buildings occupied by people with sophisticated environmental control equipment such as external blinds which are operated automatically according to the sun position and solar radiation levels, as well as full integration and instant response between all devises, building elements, users, indoor and outdoor environment.